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Test Report

Verified code: 974991

Report No.: E20230828994601-1

Customer: Lumi United Technology Co., Ltd

Address: Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No. 3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

Sample Name: Motion and Light Sensor P2

Sample Model: ML-S03D

Receive Sample Date: Aug.28,2023

Test Date: Aug.30,2023 ~ Oct.27,2023

Reference Document: EN 50663:2017
EN 62479:2010

Test Result: Pass

Prepared by: Chen Xiaocong
Chen Xiaocong

Reviewed by: Jiang Tao
Jiang Tao

Approved by: Xiao Liang
Xiao Liang

GRG METROLOGY & TEST GROUP CO., LTD.

Issued Date: 2023-11-23

GRG METROLOGY & TEST GROUP CO., LTD.

Address: No.163, Pingyun Road, West of Huangpu Avenue, Guangzhou, Guangdong, China
Tel: (+86) 400-602-0999 FAX: (+86) 020-38698685 Web: <http://www.grgtest.com>



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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E20230828994601-1	Original Issue	2023-10-27

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1 GENERAL DESCRIPTION OF EUT

1.1 APPLICANT INFORMATION

Name: Lumi United Technology Co., Ltd
Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No. 3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

Address: Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

1.2 MANUFACTURER

Name: Lumi United Technology Co., Ltd
Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No. 3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

Address: Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

1.3 BASIC DESCRIPTION OF EUT

Product Name: Motion and Light Sensor P2

Product Model: ML-S03D

Adding Model: ML-S03E

Models Difference: ML-S03E & ML-S03D have the same technical construction including circuit diagram, PCB LAYOUT, hardware version and software version identical, except sales area and packaging are different.

Trade Name: Aqara

Power Supply: DC 3V power supplied by battery

Battery Specification: Model:CR2450
Norminal Voltage:3.0Vdc

Frequency Band: 2402MHz – 2480MHz for BLE, 2405MHz-2480MHz for Thread

Modulation Type: O-QPSK for Thread, GFSK for BLE

Antenna Type: PIFA antenna

Antenna Gain: 0.95dBi

Sample submitting way: ☒ Provided by customer ☐ Sampling

Sample No: E20230828994601-0003, E20230828994601-0004

Hardware Version: X3

Software Version: 0.0.0.1

Note 1: The EUT antenna gain is provided by the applicant. This report is made solely on the basis of such data and/or information. We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions.

Note 2: All the tests were performed on the model ML-S03D.

2 LABORATORY AND ACCREDITATIONS

2.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of GRG METROLOGY & TEST GROUP CO., LTD.

Add.: No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District
Shenzhen, 518110, People's Republic of China.

P.C.: 518110

Tel : 0755-61180008

Fax: 0755-61180008

2.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

China CNAS(L0446)

Copies of granted accreditation certificates are available for downloading from our web site,
<http://www.grgtest.com>

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3 TECHNICAL REQUIREMENTS SPECIFICATION IN

3.1 RF EXPOSURE EVALUATION

According to its specifications, the EUT must comply with the requirements of the following standards:

EN 62479 – Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)

Introduction:

This generic standard applies to low power electronic and electrical apparatus for which no dedicated product – or product family standard regarding human exposure to electromagnetic fields applies.

The frequency range covered is 10 MHz to 300 GHz.

The object of this standard is to demonstrate the compliance of such apparatus with the basic restrictions on exposure of the general public to electric, magnetic and electromagnetic fields and contact current.

Compliance criteria:

All electromagnetic fields If the average power emitted by the apparatus operating in the frequency range 10 MHz to 300 GHz is less than or equal to 20 mW and the transmitting peak power is less than 20 W then the apparatus is deemed to comply with the basic restrictions without testing.

Averaging time is 6 minutes in the frequency range 10 MHz to 10 GHz. The average time is equal to $68/f^{1.05}$ minutes (where f is in GHz) in the frequency range 10 GHz to 300 GHz.

If the total supply power or the input power to the circuitry producing the greatest emissions in the device is less than or equal to 20 mW then it is assumed that the emitted power is less than 20 mW.

Pulse modulated electromagnetic fields with pulse duration less than 30 micro seconds.

For pulse of duration less than 30 microseconds at frequencies between 300 MHz and 10 GHz, there is also a basic restriction on SA. This is 2mJ kg^{-1} in any 10g of tissue in the head. For most pulses, the SAR restriction will be more stringent, but for pulses with a repetition frequency of less than 100 Hz, the SA restriction will predominate. For devices producing pulses with repetition rates below 100 Hz, the average power should be less than $20 \times \text{prf mW}$ (prf in Hz).

3.2 EVALUATION RESULTS

Exposure Restrictions							
Mode	Max. Output Power (dBm)	Gain (dBi)	EIRP Power (dBm)	Frequency Band(MHz)	EIRP Power (mW)	Limit of EIRP Power (mW)	Result
BLE-1M	8.72	0.95	9.67	2402-2480	9.27	20	Pass
BLE-2M	8.70	0.95	9.65	2402-2480	9.23	20	Pass
Thread	8.83	0.95	9.78	2405-2480	9.51	20	Pass

Note:

- 1). The BLE and Thread do not support simultaneous transmission.

----- End of Report -----